

2 27. (New) The protein of claim ~~26~~¹ which comprises amino acid sequence (a).

3 28. (New) The protein of claim ~~26~~¹ which comprises amino acid sequence (b).

29. (New) The protein of claim 26 ~~which~~^{1B} comprises amino acid sequence (c).

30. (New) The protein of claim 26 ~~which~~^{1B} comprises amino acid sequence (d).

4 31. (New) The protein of claim ~~26~~¹ wherein the protein also comprises a heterologous amino acid sequence.

5 32. (New) The protein of claim ~~31~~¹ wherein the heterologous amino acid sequence is the amino acid sequence of an immunoglobulin Fc domain.

6 33. (New) The protein of claim ~~26~~¹ wherein said protein is labeled.

7 34. (New) The protein of claim ~~33~~⁶ wherein said label is a radiolabel selected from the group consisting of:

- (a) ¹³¹I;
- (b) ¹²⁵I;
- (c) ¹²¹I;
- (d) ¹¹²In; and
- (e) ^{99m}Tc.

35. (New) The ~~protein~~^{sub} of claim 26 wherein the protein is cytotoxic to Neurokine- α receptor bearing cells.

9 36. (New) The protein of claim ~~26~~¹ bound to a solid support.

10 37. (New) A composition comprising the protein of claim ~~26~~¹ and a carrier.

11 38. (New) A protein produced by a method comprising:

- (a) expressing the protein of claim ~~26~~¹ by a cell; and
- (b) recovering the protein.

Emb B2

39. (New) An isolated protein comprising a first amino acid sequence that is 90% or more identical to a second amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of amino acid residues 1 to 285 of SEQ ID NO:2;
- (b) the amino acid sequence of amino acid residues 1 to 46 of SEQ ID NO:2;
- (c) the amino acid sequence of amino acid residues 47 to 72 of SEQ ID NO:2; and
- (d) the amino acid sequence of amino acid residues 73 to 285 of SEQ ID NO:2.

cont
a
18

13 40. (New) The protein of claim ¹²39 wherein the second amino acid sequence is (a).

14 41. (New) The protein of claim ¹²39 wherein the second amino acid sequence is (b).

42. (New) The protein of claim 39 wherein the second amino acid sequence is (c).

43. (New) The protein of claim 39 wherein the second amino acid sequence is (d).

15 44. (New) The protein of claim ¹²39 wherein said first amino acid sequence is 95% or more identical to said second amino acid sequence.

16 45. (New) The protein of claim ¹⁵44 wherein the second amino acid sequence is the amino acid sequence of amino acid residues 1 to 285 of SEQ ID NO:2.

46. (New) The protein of claim 44 wherein the second amino acid sequence is the amino acid sequence of amino acid residues 1 to 46 of SEQ ID NO:2.

47. (New) The protein of claim ~~44~~¹⁸ wherein the second amino acid sequence is the amino acid sequence of amino acid residues 47 to 72 of SEQ ID NO:2.

17 ~~48~~¹⁵. (New) The protein of claim ~~44~~¹⁵ wherein the second amino acid sequence is the amino acid sequence of amino acid residues 73 to 285 of SEQ ID NO:2.

18 ~~49~~¹². (New) The protein of claim ~~39~~¹² wherein the protein also comprises a heterologous amino acid sequence.

19 ~~50~~¹⁸. (New) The protein of claim ~~49~~¹⁸ wherein the heterologous amino acid sequence is the amino acid sequence of an immunoglobulin Fc domain.

20 ~~51~~¹². (New) The protein of claim ~~39~~¹² wherein said protein is labeled.

21 ~~52~~²⁰. (New) The protein of claim ~~51~~²⁰ wherein said label is a radiolabel selected from the group consisting of:

- (a) ^{131}I ;
- (b) ^{125}I ;
- (c) ^{121}I ;
- (d) ^{112}In ; and
- (e) $^{99\text{m}}\text{Tc}$.

53. (New) The protein of claim ~~39~~ wherein the protein is cytotoxic to Neutrokin- α receptor bearing cells.

23 ~~54~~¹². (New) The protein of claim ~~39~~¹² bound to a solid support.

24 ~~55~~¹². (New) A composition comprising the protein of claim ~~39~~¹² and a carrier.

25 ~~56~~. (New) A protein produced by a method comprising:

- (a) expressing the protein of claim ~~39~~¹² by a cell; and
- (b) recovering the protein.

2nd B3

57. (New) An isolated protein comprising an amino acid sequence selected from the group consisting of:

(a) the amino acid sequence of amino acid residues n to 285 of SEQ ID NO:2, where n is an integer in the range of 2-190;

(b) the amino acid sequence of amino acid residues 1 to m of SEQ ID NO:2, where m is an integer in the range of 274 to 284; and

(c) the amino acid sequence of amino acid residues n to m of SEQ ID NO:2, where n is an integer in the range of 2-190 and m is an integer in the range of 274-284;

wherein said protein specifically binds to an antibody that specifically binds the protein of SEQ ID NO:2.

27 58. (New) The protein of claim ²⁶57 which comprises amino acid sequence (a).

28 59. (New) The protein of claim ²⁶57 which comprises amino acid sequence (b).

29 60. (New) The protein of claim ²⁶57 which comprises amino acid sequence (c).

30 61. (New) The protein of claim ²⁶57 which comprises the amino acid sequence of amino acid residues 71-285 of SEQ ID NO:2.

62. (New) The protein of claim 57 wherein the protein modulates leukocyte proliferation.

63. (New) The protein of claim 62 wherein the leukocyte is a lymphocyte.

64. (New) The protein of claim 57 wherein the protein stimulates leukocyte proliferation.

65. (New) The protein of claim 64 wherein the leukocyte is a lymphocyte.

66. (New) The protein of claim 57 wherein the protein modulates leukocyte differentiation.

67. (New) The protein of claim 66 wherein the leukocyte is a lymphocyte.

68. (New) The protein of claim 57 wherein the protein stimulates leukocyte differentiation.

69. (New) The protein of claim 68 wherein the leukocyte is a lymphocyte.

31 70. (New) The protein of claim 57²⁶ wherein the protein also comprises a heterologous amino acid sequence.

32 71. (New) The protein of claim 70³¹ wherein the heterologous amino acid sequence is the amino acid sequence of an immunoglobulin Fc domain.

33 72. (New) The protein of claim 57²⁶ wherein said protein is labeled.

34 73. (New) The protein of claim 72³³ wherein said label is a radiolabel selected from the group consisting of:

- (a) ^{131}I ;
- (b) ^{125}I ;
- (c) ^{121}I ;
- (d) ^{112}In ; and
- (e) $^{99\text{m}}\text{Tc}$.

74. (New) The protein of claim 57 wherein the protein is cytotoxic to Neutrokin- α receptor bearing cells.

36 75. (New) The protein of claim 57²⁶ bound to a solid support.

37 76. (New) A composition comprising the protein of claim 57²⁶ and a carrier.

38 77. (New) A protein produced by a method comprising:

- (a) expressing the protein of claim 57²⁶ by a cell; and
- (b) recovering the protein.

Ref B4

78. (New) An isolated protein comprising a first amino acid sequence that is 95% or more identical to a second amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of amino acid residues n to 285 of SEQ ID NO:2, where n is an integer in the range of 2-190;
- (b) the amino acid sequence of amino acid residues 1 to m of SEQ ID NO:2, where m is an integer in the range of 274 to 284; and
- (c) the amino acid sequence of amino acid residues n to m of SEQ ID NO:2, where n is an integer in the range of 2-190 and m is an integer in the range of 274-284; and

wherein said protein specifically binds to an antibody that specifically binds the protein of SEQ ID NO:2.

can't
a
18

³⁹
40 79. (New) The protein of claim 78 wherein the second amino acid sequence is (a).

³⁹
41 80. (New) The protein of claim 78 wherein the second amino acid sequence is (b).

³⁹
42 81. (New) The protein of claim 78 wherein the second amino acid sequence is (c).

82. (New) The protein of claim 79 wherein the second amino acid sequence is the amino acid sequence of amino acid residues 191-285 of SEQ ID NO:2.

⁴⁰
43 83. (New) The protein of claim 79 wherein the second amino acid sequence is the amino acid sequence of amino acid residues 168-285 of SEQ ID NO:2.

⁴⁰
44 84. (New) The protein of claim 79 wherein the second amino acid sequence is the amino acid sequence of amino acid residues 112-285 of SEQ ID NO:2.

⁴⁰
45 85. (New) The protein of claim 79 wherein the second amino acid sequence is the amino acid sequence of amino acid residues 81-285 of SEQ ID NO:2.

~~46~~ 86. (New) The protein of claim ~~79~~⁴⁰ wherein the second amino acid sequence is the amino acid sequence of amino acid residues 71-285 of SEQ ID NO:2.

87. (New) The protein of claim ~~78~~¹⁹ wherein the protein modulates leukocyte proliferation.

88. (New) The protein of claim ~~87~~¹⁹ wherein the leukocyte is a lymphocyte.

^{sub D17} 89. (New) The protein of claim ~~78~~ wherein the protein stimulates leukocyte proliferation.

90. (New) The protein of claim ~~89~~ wherein the leukocyte is a lymphocyte.

^{cont A18} 91. (New) The protein of claim ~~78~~¹⁹ wherein the protein modulates leukocyte differentiation.

92. (New) The protein of claim ~~91~~ wherein the leukocyte is a lymphocyte.

^{sub D87} 93. (New) The protein of claim ~~78~~ wherein the protein stimulates leukocyte differentiation.

94. (New) The protein of claim ~~93~~¹⁹ wherein the leukocyte is a lymphocyte.

~~49~~ 95. (New) The protein of claim ~~78~~³⁹ wherein the protein also comprises a heterologous amino acid sequence.

~~50~~ 96. (New) The protein of claim ~~95~~⁴⁹ wherein the heterologous amino acid sequence is the amino acid sequence of an immunoglobulin Fc domain.

~~51~~ 97. (New) The protein of claim ~~78~~³⁹ wherein said protein is labeled.

52 98. (New) The protein of claim ⁵¹97 wherein said label is a radiolabel selected from the group consisting of:

- (a) ¹³¹I;
- (b) ¹²⁵I;
- (c) ¹²¹I;
- (d) ¹¹²In; and
- (e) ^{99m}Tc.

sub D97 99. (New) The protein of claim 78 wherein the protein is cytotoxic to Neutrokin- α receptor bearing cells.

CR4 54 100. (New) The protein of claim ³⁹78 bound to a solid support.

Q 18 55 101. (New) A composition comprising the protein of claim ³⁹78 and a carrier.

56 102. (New) A protein produced by a method comprising:

- (a) expressing the protein of claim ³⁹78 by a cell; and
- (b) recovering the protein.

sub B5 103. (New) An isolated protein comprising the amino acid sequence of amino acid residues 191-285 of SEQ ID NO:2, wherein said protein specifically binds an antibody that binds the protein of SEQ ID NO:2.

58 104. (New) The isolated protein of claim ⁵⁷103 which comprises the amino acid sequence of amino acid residues 168-285 of SEQ ID NO:2.

59 105. (New) The isolated protein of claim ⁵⁸104 which comprises the amino acid sequence of amino acid residues 112-285 of SEQ ID NO:2.

60 106. (New) The isolated protein of claim ⁵⁹105 which comprises the amino acid sequence of amino acid residues 81-285 of SEQ ID NO:2.

⁶¹ 107. (New) The isolated protein of claim ⁶⁵106 which comprises the amino acid sequence of amino acid residues 71-285 of SEQ ID NO:2.

108. (New) The protein of claim 103 wherein the protein modulates leukocyte proliferation.

109. (New) The protein of claim 108 wherein the leukocyte is a lymphocyte.

110. (New) The protein of claim 103 wherein the protein stimulates leukocyte proliferation.

^D
111. (New) The protein of claim 110 wherein the leukocyte is a lymphocyte.

^{cmf}
^a
⁷⁸
112. (New) The protein of claim 103 wherein the protein modulates leukocyte differentiation.

113. (New) The protein of claim 112 wherein the leukocyte is a lymphocyte.

114. (New) The protein of claim 103 wherein the protein stimulates leukocyte differentiation.

115. (New) The protein of claim 114 wherein the leukocyte is a lymphocyte.

⁶² 116. (New) The protein of claim ⁵⁷103 wherein the protein also comprises a heterologous amino acid sequence.

⁶³ 117. (New) The protein of claim ⁶²116 wherein the heterologous amino acid sequence is the amino acid sequence of an immunoglobulin Fc domain.

⁶⁴ 118. (New) The protein of claim ⁵⁷103 wherein said protein is labeled.

65 ~~119~~. (New) The protein of claim ~~118~~⁶⁴ wherein said label is a radiolabel selected from the group consisting of:

- (a) ¹³¹I;
- (b) ¹²⁵I;
- (c) ¹²¹I;
- (d) ¹¹²In; and
- (e) ^{99m}Tc.

sub D11 7
120. (New) The protein of claim 103 wherein the protein is cytotoxic to Neutrokin- α receptor bearing cells.

Q18
67 ~~121~~. (New) The protein of claim ~~103~~⁵⁷ bound to a solid support.

68 ~~122~~. (New) A composition comprising the protein of claim ~~103~~⁵⁷ and a carrier.

69 ~~123~~. (New) A protein produced by a method comprising:

- (a) expressing the protein of claim 103 by a cell; and
- (b) recovering the protein.

70 ~~124~~. (New) An isolated protein consisting of the amino acid sequence of amino acid residues 134-285 of SEQ ID NO:2.

sub D12 7
125. (New) The protein of claim ~~124~~ wherein said protein specifically binds an antibody that specifically binds the protein of SEQ ID NO:2.

126. (New) The protein of claim ~~124~~^{MD} wherein the protein modulates leukocyte proliferation.

127. (New) The protein of claim ~~126~~^{MD} wherein the leukocyte is a lymphocyte.

sub D13 7
128. (New) The protein of claim ~~124~~ wherein the protein stimulates leukocyte proliferation.

129. (New) The protein of claim 128 wherein the leukocyte is a lymphocyte.

130. (New) The protein of claim ~~124~~^D wherein the protein modulates leukocyte differentiation.

131. (New) The protein of claim ~~130~~ wherein the leukocyte is a lymphocyte.

132. (New) The protein of claim ~~124~~ wherein the protein stimulates leukocyte differentiation.

133. (New) The protein of claim ~~132~~^D wherein the leukocyte is a lymphocyte.

⁷⁴ 134. (New) The protein of claim ~~124~~⁷⁰ fused to a heterologous amino acid sequence.

⁷⁵ 135. (New) The protein of claim ~~134~~⁷⁴ wherein the heterologous amino acid sequence is the amino acid sequence of an immunoglobulin Fc domain.

⁷⁶ 136. (New) The protein of claim ~~124~~⁷⁰ wherein said protein is labeled.

⁷⁷ 137. (New) The protein of claim ~~136~~⁷⁶ wherein said label is a radiolabel selected from the group consisting of:

- (a) ¹³¹I;
- (b) ¹²⁵I;
- (c) ¹²¹I;
- (d) ¹¹²In; and
- (e) ^{99m}Tc.

138. (New) The protein of claim ~~124~~ wherein the protein is cytotoxic to Neutrokin- α receptor bearing cells.

⁷⁹ 139. (New) The protein of claim ~~124~~⁷⁰ bound to a solid support.

⁸⁰ 140. (New) A composition comprising the protein of claim ~~124~~⁷⁰ and a carrier.

- 81 ~~141~~. (New) A protein produced by a method comprising:
- (a) expressing the protein of claim ~~124~~⁷³ by a cell; and
 - (b) recovering the protein.

82 ~~142~~. (New) An isolated protein comprising the amino acid sequence of amino acid residues 134-285 of SEQ ID NO:2.

sub D16 7
143. (New) The protein of claim ~~142~~ wherein said protein specifically binds an antibody that specifically binds the protein of SEQ ID NO:2.

144. (New) The protein of claim ~~142~~ wherein the protein modulates leukocyte proliferation.

145. (New) The protein of claim ~~144~~ wherein the leukocyte is a lymphocyte.

a 18
sub D17 7
146. (New) The protein of claim ~~142~~ wherein the protein stimulates leukocyte proliferation.

147. (New) The protein of claim ~~146~~ wherein the leukocyte is a lymphocyte.

148. (New) The protein of claim ~~142~~ wherein the protein modulates leukocyte differentiation.

149. (New) The protein of claim ~~148~~ wherein the leukocyte is a lymphocyte.

sub D18 7
150. (New) The protein of claim ~~142~~ wherein the protein stimulates leukocyte differentiation.

151. (New) The protein of claim ~~150~~ wherein the leukocyte is a lymphocyte.

82
86 ~~152~~. (New) The protein of claim ~~147~~ wherein the protein also comprises a heterologous amino acid sequence.

81 153. (New) The protein of claim ~~142~~⁸⁶ wherein the heterologous amino acid sequence is the amino acid sequence of an immunoglobulin Fc domain.

88 154. (New) The protein of claim ~~142~~⁸² wherein said protein is labeled.

89 155. (New) The protein of claim ~~142~~⁸⁸ wherein said label is a radiolabel selected from the group consisting of:

- (a) ¹³¹I;
- (b) ¹²⁵I;
- (c) ¹²¹I;
- (d) ¹¹²In; and
- (e) ^{99m}Tc.

sub D197 156. (New) The protein of claim 142 wherein the protein is cytotoxic to Neutrokin- α receptor bearing cells.

Q 18 91 157. (New) The protein of claim ~~142~~⁸² bound to a solid support.

92 158. (New) A composition comprising the protein of claim ~~142~~⁸² and a carrier.

93 159. (New) A protein produced by a method comprising:

- (a) expressing the protein of claim ~~142~~⁸² by a cell; and
- (b) recovering the protein.

sub B6 160. (New) An isolated protein that is 90% or more identical to an amino acid sequence consisting of amino acid residues 134-285 of SEQ ID NO:2, wherein said protein specifically binds an antibody that specifically binds the protein of SEQ ID NO:2.

95 161. (New) The isolated protein of claim ~~160~~⁹⁴ that is 95% or more identical to an amino acid sequence consisting of amino acid residues 134-285 of SEQ ID NO:2.

162. (New) The protein of claim ~~160~~⁹⁵ wherein the protein modulates leukocyte proliferation.

163. (New) The protein of claim 162 wherein the leukocyte is a lymphocyte.

sub
D21 7
164. (New) The protein of claim 160 wherein the protein stimulates leukocyte proliferation.

165. (New) The protein of claim 164 wherein the leukocyte is a lymphocyte.

166. (New) The protein of claim 160 wherein the protein modulates leukocyte differentiation.

167. (New) The protein of claim 166 wherein the leukocyte is a lymphocyte.

sub
D22 7
168. (New) The protein of claim 160 wherein the protein stimulates leukocyte differentiation.

169. (New) The protein of claim 168 wherein the leukocyte is a lymphocyte.

98
170. (New) The protein of claim 160 wherein the protein is fused to a heterologous amino acid sequence.

98
99 171. (New) The protein of claim 170 wherein the heterologous amino acid sequence is the amino acid sequence of an immunoglobulin Fc domain.

100 172. (New) The protein of claim 160 wherein said protein is labeled.

101 173. (New) The protein of claim 172 wherein said label is a radiolabel selected from the group consisting of:

- (a) ^{131}I ;
- (b) ^{125}I ;
- (c) ^{121}I ;
- (d) ^{112}In ; and
- (e) $^{99\text{m}}\text{Tc}$.

Sub D23 7
174. (New) The protein of claim 160 wherein the protein is cytotoxic to Neutrokin- α receptor bearing cells.

103 175. (New) The protein of claim 160⁹⁴ bound to a solid support.

104 176. (New) A composition comprising the protein of claim 160⁹⁴ and a carrier.

105 177. (New) A protein produced by a method comprising:
(a) expressing the protein of claim 160⁴⁴ by a cell; and
(b) recovering the protein.

Rev B7
178. (New) An isolated protein that is 90% or more identical to an amino acid sequence comprising amino acid residues 134-285 of SEQ ID NO:2, wherein said protein specifically binds an antibody that specifically binds the protein of SEQ ID NO:2.

Q 18
107 179. (New) The isolated protein of claim 178¹⁰⁶ that is 95% or more identical to an amino acid sequence comprising amino acid residues 134-285 of SEQ ID NO:2.

180. (New) The protein of claim 178¹⁰⁶ wherein the protein modulates leukocyte proliferation.

181. (New) The protein of claim 180¹⁰⁶ wherein the leukocyte is a lymphocyte.

Sub D25
182. (New) The protein of claim 178 wherein the protein stimulates leukocyte proliferation.

183. (New) The protein of claim 182 wherein the leukocyte is a lymphocyte.

184. (New) The protein of claim 178 wherein the protein modulates leukocyte differentiation.

185. (New) The protein of claim 184 wherein the leukocyte is a lymphocyte.

sub
D26 7

186. (New) The protein of claim 178 wherein the protein stimulates leukocyte differentiation.

187. (New) The protein of claim 186 wherein the leukocyte is a lymphocyte.

110 188. (New) The protein of claim 178 wherein the protein also comprises a heterologous amino acid sequence.

111 189. (New) The protein of claim 188 wherein the heterologous amino acid sequence is the amino acid sequence of an immunoglobulin Fc domain.

112 190. (New) The protein of claim 178 wherein said protein is labeled.

113 191. (New) The protein of claim 190 wherein said label is a radiolabel selected from the group consisting of:

- (a) ^{131}I ;
- (b) ^{125}I ;
- (c) ^{121}I ;
- (d) ^{112}In ; and
- (e) $^{99\text{m}}\text{Tc}$.

192. (New) The protein of claim 178 wherein the protein is cytotoxic to Neutrokin- α receptor bearing cells.

sub
D27 7

115 193. (New) The protein of claim 178 bound to a solid support.

116 194. (New) A composition comprising the protein of claim 178 and a carrier.

117 195. (New) A protein produced by a method comprising:

- (a) expressing the protein of claim 178 by a cell; and
- (b) recovering the protein.

Pub B8

196. (New) An isolated protein comprising a fragment of the polypeptide of SEQ ID NO:2, wherein said fragment modulates leukocyte proliferation or differentiation.

197. (New) The protein of claim 196 wherein the protein modulates leukocyte proliferation.

198. (New) The protein of claim 197 wherein the leukocyte is a lymphocyte.

199. (New) The protein of claim 196 wherein the protein stimulates leukocyte proliferation.

200. (New) The protein of claim 199 wherein the leukocyte is a lymphocyte.

201. (New) The protein of claim 196 wherein the protein modulates leukocyte differentiation.

202. (New) The protein of claim 201 wherein the leukocyte is a lymphocyte.

203. (New) The protein of claim 196 wherein the protein stimulates leukocyte differentiation.

204. (New) The protein of claim 203 wherein the leukocyte is a lymphocyte.

119 205. (New) The protein of claim 118 wherein the protein also comprises a heterologous amino acid sequence.

120 206. (New) The protein of claim 119 wherein the heterologous amino acid sequence is the amino acid sequence of an immunoglobulin Fc domain.

121 207. (New) The protein of claim 118 wherein said protein is labeled.

122 ~~208~~. (New) The protein of claim ~~207~~¹²¹ wherein said label is a radiolabel selected from the group consisting of:

- (a) ¹³¹I;
- (b) ¹²⁵I;
- (c) ¹²¹I;
- (d) ¹¹²In; and
- (e) ^{99m}Tc.

sub D297
209. (New) The protein of claim 196 wherein the protein is cytotoxic to Neurokine- α receptor bearing cells.

124 ~~210~~. (New) The protein of claim ~~196~~¹¹⁸ bound to a solid support.

a₁₈
125 ~~211~~. (New) A composition comprising the protein of claim ~~196~~¹¹⁸ and a carrier.

126 ~~212~~. (New) A protein produced by a method comprising:
(a) expressing the protein of claim ~~196~~¹¹⁸ by a cell; and
(b) recovering the protein.

sub B9
213. (New) An isolated protein comprising an amino acid sequence of at least 9 contiguous amino acid residues of SEQ ID NO:2 wherein said protein specifically binds an antibody that specifically bind the polypeptide of SEQ ID NO:2.

214. (New) The protein of claim ~~213~~¹¹⁸ which comprises an amino acid sequence of at least 30 contiguous amino acid residues of SEQ ID NO:2.

sub 8/26/03
128 ~~215~~. (New) The protein of claim ~~214~~¹²⁷ which comprises an amino acid sequence of at least 50 contiguous amino acid residues of SEQ ID NO:2.

216. (New) The protein of claim ~~213~~¹¹⁸ wherein the protein modulates leukocyte proliferation.

217. (New) The protein of claim 216 wherein the leukocyte is a lymphocyte.
218. (New) The protein of claim 213 wherein the protein stimulates leukocyte proliferation.
219. (New) The protein of claim 218 wherein the leukocyte is a lymphocyte.
220. (New) The protein of claim 213 wherein the protein modulates leukocyte differentiation.
221. (New) The protein of claim 220 wherein the leukocyte is a lymphocyte.
222. (New) The protein of claim 213 wherein the protein stimulates leukocyte differentiation.
223. (New) The protein of claim 222 wherein the leukocyte is a lymphocyte.
224. (New) The protein of claim 213 wherein the protein also comprises a heterologous amino acid sequence.

225. (New) The protein of claim 224 wherein the heterologous amino acid sequence is the amino acid sequence of an immunoglobulin Fc domain.

131 226. (New) The protein of claim 213 wherein said protein is labeled.

132 227. (New) The protein of claim 226 wherein said label is a radiolabel selected from the group consisting of:

- (a) ^{131}I ;
- (b) ^{125}I ;
- (c) ^{121}I ;
- (d) ^{112}In ; and
- (e) $^{99\text{m}}\text{Tc}$.

Sub
D32 7

228. (New) The protein of claim 213 wherein the protein is cytotoxic to Neutrokin- α receptor bearing cells.

134 229. (New) The protein of claim 213^{1a7} bound to a solid support.

135 230. (New) A composition comprising the protein of claim 213^{1a7} and a carrier.

136 231. (New) A protein produced by a method comprising:
(a) expressing the protein of claim 213^{1a7} by a cell; and
(b) recovering the protein.

Sub B11

232. (New) An isolated protein which comprises an amino acid sequence selected from the group consisting of:

(a) the amino acid sequence of amino acid residues 115 to 147 of SEQ ID NO:2;

(b) the amino acid sequence of amino acid residues 150 to 163 of SEQ ID NO:2;

(c) the amino acid sequence of amino acid residues 171 to 194 of SEQ ID NO:2;

(d) the amino acid sequence of amino acid residues 223 to 247 of SEQ ID NO:2; and

(e) the amino acid sequence of amino acid residues 271 to 278 of SEQ ID NO:2.

wherein said protein specifically binds to an antibody that specifically binds the polypeptide of SEQ ID NO:2.

233. (New) The protein of claim 232 which comprises amino acid sequence (a).

234. (New) The protein of claim 232 which comprises amino acid sequence (b).

235. (New) The protein of claim 232 which comprises amino acid sequence (c).

A₁₈

Sub
B11 cont 7

236. (New) The protein of claim 235 which also comprises amino acid sequence

(d).

237. (New) The protein of claim 232 which comprises amino acid sequence (d).

Sub B12

238. (New) The protein of claim 232 which comprises amino acid sequence (e).

239. (New) The protein of claim 232 wherein the protein also comprises a heterologous amino acid sequence.

Sub B13

240. (New) The protein of claim 239 wherein the heterologous amino acid sequence is the amino acid sequence of an immunoglobulin Fc domain.

241. (New) The protein of claim 232 wherein said protein is labeled.

A
18

242. (New) The protein of claim 241 wherein said label is a radiolabel selected from the group consisting of:

- (a) ^{131}I ;
- (b) ^{125}I ;
- (c) ^{121}I ;
- (d) ^{112}In ; and
- (e) $^{99\text{m}}\text{Tc}$.

D

243. (New) The protein of claim 232 wherein the protein is cytotoxic to Neutrokin- α receptor bearing cells.

244. (New) The protein of claim 232 bound to a solid support.

245. (New) A composition comprising the protein of claim 232 and a carrier.

246. (New) A protein produced by a method comprising:

- (a) expressing the protein of claim 232 by a cell; and
- (b) recovering the protein.

rule B14

247. (New) An isolated protein comprising an amino acid sequence selected from the group consisting of:

(a) the amino acid sequence of an amino-terminal deletion protein mutant of the full-length protein encoded by the cDNA clone contained in ATCC Deposit Number 97768, wherein said amino-terminal deletion protein mutant excludes up to 190 amino acid residues from the amino terminus of said full-length protein encoded by the cDNA clone contained in ATCC Deposit Number 97768;

(b) the amino acid sequence of a carboxy-terminal deletion protein mutant of the full-length protein encoded by the cDNA clone contained in ATCC Deposit Number 97768, wherein said carboxy-terminal deletion protein mutant excludes up to 11 amino acid residues from the carboxy terminus of said full-length protein encoded by the cDNA clone contained in ATCC Deposit Number 97768; and

a 18 (c) the amino acid sequence of an amino- and carboxy-terminal deletion protein mutant of the full-length protein encoded by the cDNA clone contained in ATCC Deposit Number 97768, wherein said amino- and carboxy-terminal deletion protein mutant excludes up to 190 amino acid residues from the amino terminus and up to 11 amino acid residues from the carboxy terminus of said said full-length protein encoded by the cDNA clone contained in ATCC Deposit Number 97768;

wherein said protein specifically binds an antibody that specifically binds the polypeptide encoded by the cDNA clone contained in ATCC Deposit Number 97768.

138 ~~248~~. (New) The protein of claim ¹³⁷~~247~~ which comprises amino acid sequence (a).

139 ~~249~~. (New) The protein of claim ¹³⁷~~247~~ which comprises amino acid sequence (b).

140 ~~250~~. (New) The protein of claim ¹³⁷~~247~~ which comprises amino acid sequence (c).

141 ~~251~~. (New) The protein of claim ¹³⁸~~248~~ which excludes 133 amino acid residues from the amino terminus of the full length protein encoded by the cDNA clone contained in ATCC Deposit Number 97768.

252. (New) The protein of claim ~~247~~ wherein the protein modulates leukocyte proliferation.

253. (New) The protein of claim 252 wherein the leukocyte is a lymphocyte.

254. (New) The protein of claim 247 wherein the protein stimulates leukocyte proliferation.

255. (New) The protein of claim 254 wherein the leukocyte is a lymphocyte.

256. (New) The protein of claim ~~247~~^D wherein the protein modulates leukocyte differentiation.

257. (New) The protein of claim 256 wherein the leukocyte is a lymphocyte.

258. (New) The protein of claim 247 wherein the protein stimulates leukocyte differentiation.

259. (New) The protein of claim 258 wherein the leukocyte is a lymphocyte.

¹³⁷
~~142~~ 260. (New) The protein of claim ~~247~~¹³⁷ wherein the protein also comprises a heterologous amino acid sequence.

¹⁴²
~~143~~ 261. (New) The protein of claim ~~260~~¹⁴² wherein the heterologous amino acid sequence is the amino acid sequence of an immunoglobulin Fc domain.

¹³⁷
~~144~~ 262. (New) The protein of claim ~~247~~¹³⁷ wherein said protein is labeled.

¹⁴⁴
~~145~~ 263. (New) The protein of claim ~~262~~¹⁴⁴ wherein said label is a radiolabel selected from the group consisting of:

- (a) ¹³¹I;
- (b) ¹²⁵I;
- (c) ¹²¹I;
- (d) ¹¹²In; and
- (e) ^{99m}Tc.

Sub D34-7
264. (New) The protein of claim 247 wherein the protein is cytotoxic to Neutrokin- α receptor bearing cells.

147 265. (New) The protein of claim 247¹³⁷ bound to a solid support.

148 266. (New) A composition comprising the protein of claim 247¹³⁷ and a carrier.

A 18
149 267. (New) A protein produced by a method comprising:

- (a) expressing the protein of claim 247¹³⁷ by a cell; and
- (b) recovering the protein.

Sub B15
268. (New) An isolated protein comprising a first amino acid sequence that is 95% or more identical to a second amino acid sequence selected from the group consisting of:

(a) the amino acid sequence of an amino-terminal deletion protein mutant of the full-length protein encoded by the cDNA clone contained in ATCC Deposit Number 97768, wherein said amino-terminal deletion protein mutant excludes up to 190 amino acid residues from the amino terminus of said full-length protein encoded by the cDNA clone contained in ATCC Deposit Number 97768;

(b) the amino acid sequence of a carboxy-terminal deletion protein mutant of the full-length protein encoded by the cDNA clone contained in ATCC Deposit Number 97768, wherein said carboxy-terminal deletion protein mutant excludes up to 11 amino acid residues from the carboxy terminus of said full-length protein encoded by the cDNA clone contained in ATCC Deposit Number 97768; and

(c) the amino acid sequence of an amino- and carboxy-terminal deletion protein mutant of the full-length protein encoded by the cDNA clone contained in ATCC Deposit Number 97768, wherein said amino- and carboxy-terminal deletion protein mutant excludes up to 190 amino acid residues from the amino terminus and up to 11 amino acid residues from the carboxy terminus of said said full-length protein encoded by the cDNA clone contained in ATCC Deposit Number 97768;

wherein said protein specifically binds an antibody that specifically binds the polypeptide encoded by the cDNA clone contained in ATCC Deposit Number 97768.

151 ~~269~~. (New) The protein of claim ~~268~~¹⁵⁰ which comprises amino acid sequence (a).

152 ~~270~~. (New) The protein of claim ~~268~~¹⁵⁰ which comprises amino acid sequence (b).

153 ~~271~~. (New) The protein of claim ~~268~~¹⁵⁰ which comprises amino acid sequence (c).

154 ~~272~~. (New) The protein of claim ~~269~~¹⁵¹ which excludes 190 amino acid residues from the amino terminus of the full length protein encoded by the cDNA clone contained in ATCC Deposit Number 97768.

Sub B/6
Q
18
~~273. (New) The protein of claim 269 which excludes 133 amino acid residues from the amino terminus of the full length protein encoded by the cDNA clone contained in ATCC Deposit Number 97768.~~

~~274. (New) The protein of claim 268 wherein the protein modulates leukocyte proliferation.~~

~~275. (New) The protein of claim 273 wherein the leukocyte is a lymphocyte.~~

Sub D36 7
~~276. (New) The protein of claim 268 wherein the protein stimulates leukocyte proliferation.~~

~~277. (New) The protein of claim 276 wherein the leukocyte is a lymphocyte.~~

~~278. (New) The protein of claim 268 wherein the protein modulates leukocyte differentiation.~~

~~279. (New) The protein of claim 278 wherein the leukocyte is a lymphocyte.~~

Sub D37
~~280. (New) The protein of claim 268 wherein the protein stimulates leukocyte differentiation.~~

~~281. (New) The protein of claim 280 wherein the leukocyte is a lymphocyte.~~

158 ~~282~~. (New) The protein of claim ~~268~~¹⁵⁰ wherein the protein also comprises a heterologous amino acid sequence.

159 ~~283~~. (New) The protein of claim ~~282~~¹⁵⁰ wherein the heterologous amino acid sequence is the amino acid sequence of an immunoglobulin Fc domain.

160 ~~284~~. (New) The protein of claim ~~268~~¹⁵⁰ wherein said protein is labeled.

161 ~~285~~. (New) The protein of claim ~~284~~¹⁶⁰ wherein said label is a radiolabel selected from the group consisting of:

- (a) ^{131}I ;
- (b) ^{125}I ;
- (c) ^{121}I ;
- (d) ^{112}In ; and
- (e) $^{99\text{m}}\text{Tc}$.

286. (New) The protein of claim 268 wherein the protein is cytotoxic to Neurotrophin- α receptor bearing cells.

163 ~~287~~. (New) The protein of claim ~~268~~¹⁵⁰ bound to a solid support.

164 ~~288~~. (New) A composition comprising the protein of claim ~~268~~¹⁵⁰ and a carrier.

165 ~~289~~. (New) A protein produced by a method comprising:
(a) expressing the protein of claim ~~268~~¹⁵⁰ by a cell; and
(b) recovering the protein.

ent B17

290. (New) An isolated protein comprising a first amino acid sequence that is 95% or more identical to a second amino acid sequence consisting of the amino acid sequence of an amino-terminal deletion protein mutant of the full-length protein encoded by the cDNA clone contained in ATCC Deposit Number 97768, wherein said amino-terminal deletion protein mutant excludes up to 133 amino acid residues from the amino terminus of said full-length protein encoded by the cDNA clone contained in ATCC Deposit Number 97768, and wherein said isolated protein specifically binds an antibody that specifically binds the protein of SEQ ID NO:2.

291. (New) The protein of claim 290 wherein the protein modulates leukocyte proliferation.

D

292. (New) The protein of claim 291 wherein the leukocyte is a lymphocyte.

293. (New) The protein of claim 290 wherein the protein stimulates leukocyte proliferation.

294. (New) The protein of claim 293 wherein the leukocyte is a lymphocyte.

295. (New) The protein of claim 290 wherein the protein modulates leukocyte differentiation.

D

296. (New) The protein of claim 295 wherein the leukocyte is a lymphocyte.

297. (New) The protein of claim 290 wherein the protein stimulates leukocyte differentiation.

298. (New) The protein of claim 297 wherein the leukocyte is a lymphocyte.

D

169 299. (New) The protein of claim ¹⁶⁵290 wherein the protein also comprises a heterologous amino acid sequence.

170 300. (New) The protein of claim ¹⁶⁹299 wherein the heterologous amino acid sequence is the amino acid sequence of an immunoglobulin Fc domain.

171 301. (New) The protein of claim ¹⁶⁶290 wherein said protein is labeled.

172 302. (New) The protein of claim ¹⁷¹301 wherein said label is a radiolabel selected from the group consisting of:

- (a) ¹³¹I;
- (b) ¹²⁵I;
- (c) ¹²¹I;
- (d) ¹¹²In; and
- (e) ^{99m}Tc.

A 18 sub D 427 303. (New) The protein of claim 290 wherein the protein is cytotoxic to Neutrokin- α receptor bearing cells.

174 304. (New) The protein of claim ¹⁶⁸290 bound to a solid support.

175 305. (New) A composition comprising the protein of claim ¹⁶⁶290 and a carrier.

176 306. (New) A protein produced by a method comprising:

- (a) expressing the protein of claim ¹⁶⁸290 by a cell; and
- (b) recovering the protein.

Sub-B18 307. (New) An isolated protein consisting of a first amino acid sequence that is 95% or more identical to a second amino acid sequence consisting of the amino acid sequence of an amino-terminal deletion protein mutant of the full-length protein encoded by the cDNA clone contained in ATCC Deposit Number 97768, wherein said amino-terminal deletion protein mutant excludes up to 133 amino acid residues from the amino terminus of said full-length protein encoded by the cDNA clone contained in ATCC Deposit Number 97768, and wherein said isolated protein specifically binds an antibody that specifically binds the protein of SEQ ID NO:2.

308. (New) The protein of claim ~~307~~¹⁷⁷ wherein the protein modulates leukocyte proliferation.

309. (New) The protein of claim ~~308~~¹⁷⁷ wherein the leukocyte is a lymphocyte.

Sub 7
D44 310. (New) The protein of ~~claim 307~~¹⁷⁷ wherein the protein stimulates leukocyte proliferation.

311. (New) The protein of claim ~~310~~¹⁷⁷ wherein the leukocyte is a lymphocyte.

Q78 312. (New) The protein of claim ~~307~~¹⁷⁷ wherein the protein modulates leukocyte differentiation.

313. (New) The protein of claim ~~312~~¹⁷⁷ wherein the leukocyte is a lymphocyte.

Sub
D45 314. (New) The protein of claim ~~307~~¹⁷⁷ wherein the protein stimulates leukocyte differentiation.

315. (New) The protein of claim ~~314~~¹⁷⁷ wherein the leukocyte is a lymphocyte.

180 316. (New) The protein of claim ~~307~~¹⁷⁷ fused to a heterologous amino acid sequence.

181 317. (New) The protein of claim ~~316~~¹⁸⁰ wherein the heterologous amino acid sequence is the amino acid sequence of an immunoglobulin Fc domain.

182 318. (New) The protein of claim ~~307~~¹⁷⁷ wherein said protein is labeled.

163 349. (New) The protein of claim ~~318~~¹⁸² wherein said label is a radiolabel selected from the group consisting of:

- (a) ^{131}I ;
- (b) ^{125}I ;
- (c) ^{121}I ;
- (d) ^{112}In ; and
- (e) $^{99\text{m}}\text{Tc}$.

sub 7
046 320. (New) The protein of claim 307 wherein the protein is cytotoxic to Neutrokin- α receptor bearing cells.

ag 185 321. (New) The protein of claim ~~307~~¹⁷⁷ bound to a solid support.

186 322. (New) A composition comprising the protein of claim ~~307~~¹⁷⁷ and a carrier.

187 323. (New) A protein produced by a method comprising:

- (a) expressing the protein of claim ~~307~~¹⁷⁷ by a cell; and
- (b) recovering the protein.

sub B19 324. (New) An isolated protein comprising a fragment of the polypeptide encoded by the cDNA clone contained in ATCC Deposit Number 97768, wherein said fragment modulates leukocyte proliferation or differentiation.

325. (New) The protein of claim 324 wherein the protein modulates leukocyte proliferation.

326. (New) The protein of claim 325 wherein the leukocyte is a lymphocyte.

327. (New) The protein of claim 324 wherein the protein stimulates leukocyte proliferation.

328. (New) The protein of claim 327 wherein the leukocyte is a lymphocyte.

329. (New) The protein of claim 324 wherein the protein modulates leukocyte differentiation.

330. (New) The protein of claim ~~329~~ wherein the leukocyte is a lymphocyte.

331. (New) The protein of claim 324 wherein the protein stimulates leukocyte differentiation.

332. (New) The protein of claim 331 wherein the leukocyte is a lymphocyte.

¹⁸⁸
~~189~~ 333. (New) The protein of claim ~~324~~ wherein the protein also comprises a heterologous amino acid sequence.

¹⁸⁹
~~190~~ 334. (New) The protein of claim ~~333~~ wherein the heterologous amino acid sequence is the amino acid sequence of an immunoglobulin Fc domain.

¹⁸⁸
~~191~~ 335. (New) The protein of claim ~~324~~ wherein said protein is labeled.

¹⁹¹
~~192~~ 336. (New) The protein of claim ~~335~~ wherein said label is a radiolabel selected from the group consisting of:

- (a) ¹³¹I;
- (b) ¹²⁵I;
- (c) ¹²¹I;
- (d) ¹¹²In; and
- (e) ^{99m}Tc.

^{sub D48}
337. (New) The protein of claim 324 wherein the protein is cytotoxic to Neutrokin-α receptor bearing cells.

¹⁸⁸
~~194~~ 338. (New) The protein of claim ~~324~~ bound to a solid support.

¹⁸⁸
~~195~~ 339. (New) A composition comprising the protein of claim ~~324~~ and a carrier.

- 196 340. (New) A protein produced by a method comprising:
- (a) expressing the protein of claim 324 by a cell; and
 - (b) recovering the protein.

lv B20 341. (New) An isolated protein comprising an amino acid sequence of at least 9 contiguous amino acid residues of the polypeptide encoded by the cDNA clone contained in ATCC Deposit Number 97768 wherein said protein specifically binds an antibody that specifically binds the polypeptide encoded by the cDNA clone contained in ATCC Deposit Number 97768.

342. (New) The protein of claim 341 which comprises an amino acid sequence of at least 30 contiguous amino acid residues of the polypeptide encoded by the cDNA clone contained in ATCC Deposit Number 97768.

Ag 343. (New) The protein of claim 342 which comprises an amino acid sequence of at least 50 contiguous amino acid residues of the polypeptide encoded by the cDNA clone contained in ATCC Deposit Number 97768.

sub D50 344. (New) The protein of claim 341 wherein the protein modulates leukocyte proliferation.

345. (New) The protein of claim 344 wherein the leukocyte is a lymphocyte.

346. (New) The protein of claim 341 wherein the protein stimulates leukocyte proliferation.

347. (New) The protein of claim 346 wherein the leukocyte is a lymphocyte.

348. (New) The protein of claim 341 wherein the protein modulates leukocyte differentiation.

349. (New) The protein of claim 348 wherein the leukocyte is a lymphocyte.

350. (New) The protein of claim 341 wherein the protein stimulates leukocyte differentiation.

351. (New) The protein of claim 350 wherein the leukocyte is a lymphocyte.

199 352. (New) The protein of claim 341 wherein the protein also comprises a heterologous amino acid sequence.

200 353. (New) The protein of claim 352 wherein the heterologous amino acid sequence is the amino acid sequence of an immunoglobulin Fc domain.

201 354. (New) The protein of claim 341 wherein said protein is labeled.

202 355. (New) The protein of claim 354 wherein said label is a radiolabel selected from the group consisting of:

- (a) ^{131}I ;
- (b) ^{125}I ;
- (c) ^{121}I ;
- (d) ^{112}In ; and
- (e) $^{99\text{m}}\text{Tc}$.

Sub D51 7 356. (New) The protein of claim 341 wherein the protein is cytotoxic to Neutrokin- α receptor bearing cells

204 357. (New) The protein of claim 341 bound to a solid support.

205 358. (New) A composition comprising the protein of claim 341 and a carrier.

206 359. (New) A protein produced by a method comprising:

- (a) expressing the protein of claim 341 by a cell; and
- (b) recovering the protein.